Data Integration

Case study for UUM ASIS Student's marks

Anas Bassam AL-Badareen

UNIVERSITY UTARA MALAYSIA

Data Integration

Case study for UUM ASIS Student's marks

A thesis submitted to Graduate Department of Computer Science,

College of Arts and Sciences, in partial fulfillment of the requirements

for the degree of Master of Science (Information Technology)

University Utara Malaysia

Anas Bassam AL-Badareen

KOLEJ SASTERA DAN SAINS
(College of Arts and Sciences)
Universiti Utara Malaysia

PERAKUAN KERJA KERTAS PROJEK
(Certificate of Project Paper)

Saya, yang bertandatangan, memperakukan bahawa
(I, the undersigned, certify that)

ANAS BASSAM ZA'AL AL-BADASEEN

calon untuk Ijazah
(candidate for the degree of) **MSc. (IT)**

telah mengemukakan kertas projek yang bertajuk
(has presented his/her project paper of the following title)

DATA INTEGRATION : CASE STUDY FOR UUM ASIS STUDENT'S MARKS

seperti yang tercatat di muka surat tajuk dan kulit kertas projek
(as it appears on the title page and front cover of project paper)

bahawa kertas projek tersebut boleh diterima dari segi bentuk serta kandungan dan meliputi bidang ilmu dengan memuaskan.
(that the project paper acceptable in form and content, and that a satisfactory knowledge of the field is covered by the project paper).

Nama Penyelia Utama
(Name of Main Supervisor): **MR. NURNASRAN BIN PUTEH**

Tandatangan
(Signature) : _____ Tarikh (Date) : 26/05/08

Nama Penyelia Kedua
(Name of 2nd Supervisor): **MR. MOHD. ZABIDIN BIN HUSIN**

Tandatangan
(Signature) : _____ Tarikh (Date) : 26/05/08

PERMISSION TO USE

In presenting this thesis in partial fulfillment of the requirements for a postgraduate degree from University Utara Malaysia, I agree that the University Library may make it freely available for inspection. I further agree that permission for copying of this thesis in any manner, in whole or in part, for scholarly purpose may be granted by my supervisor(s) or, in their absence by the Dean of Research and Post Graduate Studies. It is understood that any copying or publication or use of this thesis or parts thereof for financial gain shall not be allowed without my written permission. It is also understood that due recognition shall be given to me and to University Utara Malaysia for any scholarly use which may be made of any material from my thesis.

Requests for permission to copy or to make other use of materials in this thesis, in whole or in part, should be addressed to

Dean of Research and Post Graduate Studies

College of Arts and Sciences

Universiti Utara Malaysia

06010 UUM Sintok

Kedah Darul Aman.

ABSTRACT

The primary purpose of this study is to migrate data from Microsoft Excel Sheets to ASIS UUM Portal System. In UUM, lecturers normally move data from Microsoft Excel Sheets to ASIS UUM Portal system using manual methods. The traditional method of migrating data from Microsoft Excel to Database has many problems which include inaccuracy, time wastage and inefficiency. This project is aimed at development middleware system that will migrate data from Microsoft excel to ASIS UUM Portal system effectively and accurately.

ACKNOWLEDGEMENT

Firstly, I would like to express my deepest sense of gratitude to my supervisors Dr. Nurnasran Bin puteh and Mohd Zabidin bin Husin for theirs patient guidance, encouragement, understanding, and excellent advice throughout this study.

I am also thankful to all my colleagues and friends at UUM, especially from the faculty of information technology for their help and support, with whom I shared pleasant times.

اهداء

أهدي هذا العمل المتواضع

لله رب العالمين

ثم

والدي رحمه الله

و والدتي العزيزة

والى اخوتي وأخواتي

TABLE OF CONTENT

TABLE OF FIGURES

List of Tables

CHAPTER ONE

INTRODUCTION

1.1 Background

In recent years, rapid growth in the volume of data has become one of the main challenges for organizations. One of the characteristic features of our age is the information society, which means the growth of a large number of information systems (Emejanov, 2002). As information is increasingly created, processed, and manipulated in digital form, the role of large-scale enterprise storage systems becomes increasingly important (Sundaram, 2006). The growing need for shared information within and amongst organizations has increased pressure towards integration of existing systems (Bodorik, 1990).

Data communication within and between organizations is critical and most important to their success. Integration can be defined as bringing together two or more stores of data seamlessly into one common store (Lah, 2005). Without systems integration, data remains isolated in silos hence can't talk to each other. This could result to lost of business intelligence opportunities due to scattered data that can't be analyzed and

The contents of the thesis is for internal user only

i) For the security purpose, only the lecturer can use the system, and each lecturer can upload student's marks for his classes.

ii) The system is user friendly, in a sense that the user can easily understand the system although the user is a first time user. This is because the design is simple, attractive and do not have too many graphical items.

iii) The simplicity in the excel sheet format requires an upload into the system in a simple way.

5.3 Recommended works

For future work, some enhancement can be done to improve this system to reduce the limitation; there are several options that can be used.

a. Work with different databases types such as Oracle, MySql, to work in other systems.
b. The system can improve to upload different type of information such as course information.
c. The system can improve to upload different type of files that may used by lecturers such as Microsoft Word.

References

WWW.UUM.EDU.MY (2008)

Bing Wu; Lawless, D. B., J.; Grimson, J.; Wade, V.; O'Sullivan, D.; Richardson, R.;. (1997). Legacy systems migration-a method and its tool-kit framework. 312 - 320

Bradley, R. (2007). Push to Pull: How Lean Concepts Improve a Data Migration. 365 - 370

Brown, R. E. S., R.A.;. (1996). Systems integration using CASE tool development software. 2, 818 - 824.

Carlos Ordonez , J. G.-G., Zhibo Chen. (2007). Measuring referential integrity in distributed databases. 61-66

Cheng Leong Ang; Gay, R. S., O.;. (2005). Data integration for virtual enterprise in cyberworlds. 4 pp.

Clark, D. K., J.M. Bieleski, S.T., Jr. . (1992). Broker: a system integration approach. 162-170.

De La Luz, V. K., M.; Kolcu, I.;. (2002). Automatic data migration for reducing energy consumption in multi-bank memory systems. 213 - 218

Dong, L. Y. G. C. W. W. J. (2007). MSFSS: A Storage System for Mass Small Files. 1087 - 1092

Emejanov, A. I. Z., O.I.;. (2002). Data migration and interaction of information systems. 74 - 76

Faes, P. C., M.; Stroobandt, D.;. (2007). Mobility of Data in Distributed Hybrid Computing Systems. 1 - 7

Fujiwara, T. J. M. U., S.;. (2005). Data Migration for aWidely Distributed Storage System Using Autonomous Disks. 1267 - 1267

Fujun Zhu; Turner, M. K., I.; Bennett, K.; Russell, M.; Budgena, D.; Breretona, P.; Keane, J.; Layzell, P.; Rigby, M.; Jie Xu;. (2004). Dynamic data integration using Web services. 262 - 269

Getta, J. R. (2005). On Adaptive and Online Data Integration. 1212 - 1212

Getta, J. R. (2006). Optimization of online data integration. 91 - 97

Giuseppe De Giacomo, D. L., Maurizio Lenzerini , Riccardo Rosati (2004). Tackling inconsistencies in data integration through source preferences 27 - 34

Goel, S. B., B.; Yin-He Jiang;. (1996). Supporting method migration in a distributed object database system: a performance study. 1, 31 - 40

Henry, S. H., S.; Hwang, M.; Lee, D.; DeVore, M.D.;. (2005). Engineering trade study: extract, transform, load tools for data migration. 1 - 8

Hohenstein, U. (2000). Supporting data migration between relational and object-oriented databases using a federation approach. 371 - 379

Hsieh, W. C. K., M.F.; Weihl, W.E.;. (1994). Dynamic Computation Migration in DSM Systems. 44 - 44

Jonghyun Lee; Winslett, M. X. M. S. Y. (2002). Enhancing data migration performance via parallel data compression. 444 - 451

Kruchten, P. (2000). The Rational Unified Process: An Introduction, Second Edition, 2nd edition: Addison-Wesley Longman Publishing Co., Inc. Boston, MA, USA

Kruchten, P. (2002). Tutorial: introduction to the rational unified process®. 703 - 703

Kruchten, P. (2003). The Rational Unified Process: An Introduction, 3 edition: Addison-Wesley Longman Publishing Co., Inc. Boston, MA, USA

Lah, D. S. M., J.A.;. (2005). Measuring the impact of data integration in cooperative utilities. C4/1 - C4/5

Li, J. W., Yuanzhen; Li, Zhuan;. (2007). DM_Integration: A Framework for Iterative Large Volume Data Integration. 68 - 73

McArthur, B. A. (1997). Goal-directed data integration for sonar picture compilation. 1, 488 - 493

McCann, J. A. W., N.J.; Osmon, P.; Bolton, D. (1995). Dynamic file migration to support parallel database systems. 352 - 356.

Nilsson, E. G. N., E.K.; Oftedal, G. (1990). Aspects of systems integration. 434 - 443.

Ozturk, O. K., M.;. (2005). Nonuniform banking for reducing memory energy consumption. 2, 814 - 819

Bodorik , J. S. R. (1990). System integration in multidatabases. 160 - 163.

Popov, A. (2004). Mission planning and data integration on the International Space Station Program. 6, 3856 - 3865

Putnikovic, B. S., Z.;. (2007). Database Migration Using Standard Data Unload and Load Procedures On z/OS Platform 259 - 266

Scheurich, C. D., M. (1989). Dynamic page migration in multiprocessors with distributed globalmemory. 38(8), 1154 - 1163.

Schmid, O. (1996). A concept of data migration in a distributed, object-oriented knowledge base. 391

Silberberg, D. P. (1991). Populating databases from multiple sources-the Hubble spacetelescope paradigm. 168.

Song, Q.-C. L. Y.-B. (2007). Mobile Agents Based Distributed Parallel Migration. 1, 61 - 65

Sundaram, V. W., T.; Shenoy, P.;. (2006). Efficient Data Migration in Self-managing Storage Systems. 297 - 300

Tungare, M. P., P.S.; Sampat, M.; Perez-Quinones, M.A.;. (2007). Syncables: A Framework to Support Seamless Data Migration Across Multiple Platforms. 1 - 5

Uwe Hohenstein, A. E. (1999). Automatic migration of files into relational databases. 17 - 21

Wheat, S. R. D., K.D.; Maccabe, A.B.;. (1994). Experience with automatic, dynamic load balancing and adaptive finite element computation. 2, 463 - 472

Wolfgang May , B. L. (2002). Understanding the global semantics of referential actions using logic rules. 343 - 397

Yin, Y. H. Y. (2006). Turbo Data Integration for Uncovering Gene Networks. 1 - 2

Youn, C. K., C.S.;. (1992). Data migration. 2, 1255 - 1258

Zheng Zhang; Cintra, M. T., J.;. (1999). Excel-NUMA: toward programmability, simplicity, and high performance. 48(2).